

Proleg

FIRST PRINCIPLES

OF

PHILOSOPHY.



FIRST PRINCIPLES
OF
PHILOSOPHY,

AND
THEIR APPLICATION
TO THE SUBJECTS
OF
TASTE, SCIENCE, AND HISTORY.

By JOHN BRUCE, A. M.

PROFESSOR OF PHILOSOPHY IN THE
UNIVERSITY, AND FELLOW OF
THE ROYAL SOCIETY OF
EDINBURGH.

THIRD EDITION, ENLARGED.

EDINBURGH:
Printed for W. STRAHAN, and T. CADELL,
London;—AND
WILLIAM CREECH, Edinburgh.

M,DCC,LXXXV.

FIRST EDITION

PHILOSOPHY

THE HISTORY OF



THE HISTORY OF

THE HISTORY OF

BRITISH MUSEUM

THE First - Philosophy
or Logic Class, in the
University of Edinburgh, is
placed, in the Academical
course, immediately after the
study of the Languages.

Logic was originally form-
ed an Art without Science.
The treatises on this subject
(Lord Bacon's excepted) have
been limited to commenta-
ries on the Ancient Systems,
or to detached Essays on
Metaphysics and Criticism.
Hence the present imperfect
state

state of this Art, compared with the other branches of Knowledge.

To remedy this defect, Logic is to be considered as the comprehensive Science, which explains the method of discovering and applying the Laws of Nature. Sir Isaac Newton explained the Laws of the Material System, by reasoning from observation and experiment. His discoveries shew the progress of the Human Mind, in observing and applying the Laws of Body. The same method will ascertain the general Laws of the Human Mind, in the
successful

successful study of Nature, and render the knowledge of them, the Rudiments and First Principles of all Philosophy.

The subject divides itself into two branches.

I. The Science of observing the Laws of Nature, or the First Principles of Philosophy.

This forms the Elementary course of Philosophy, in which are explained, the Natural History of the faculties of the Human Mind; the
a 2 method

method of applying them for the purposes of Discovery; and the foundations of the Sciences, with the Evidence which establishes the Laws of Nature, and renders them Rules in the Arts.

On these subjects, the Students, by frequent examinations, are habituated to composition.

II. The application of the Science of Observing Nature, or of the First Principles of Philosophy, to the Subjects of Taste, Science, and History.

This

This forms a Course of Lectures for more advanced Students, in which are explained, the History of the objects in Nature and Art, which address Genius and Taste, with the application of the Laws of these Faculties, as the Rules of the Art of Criticism; the History of Nature, connected with the Sciences, which discover its Laws, and these, with the arts, which they create and improve; and the History of Philosophy, prefaced with a general view of the Governments and Religions of the Nations, who have been distinguished by useful Discoveries, or elegant Speculations.

This introduction to Study, is intended to lay open a view of the proper subjects of Taste, inquiry, and information, that the Students may be enabled to select the articles, which are suited to their Talents and Business in Life.

The outlines only of the Lectures, with the necessary definitions, are printed, as they are intended chiefly for the Students, who are to hear them explained.

C O N -

CONTENTS.

INTRODUCTION.

	Pag.
I. Of Philosophy,	i
II. Of the First Principles of Philosophy,	7

PART I.

<i>General Arrangement,</i>	11
-----------------------------	----

I. Pneumatology.

INTRODUCTION, 13

Ch.

1. Of Mind; as a department of Nature,	-	-	16
2. Of the sources of Human Knowledge;--Sensation, Understanding, Consciousness,	-	-	21
3. Of			

xii CONTENTS.

Ch.		Pag.
3.	<i>Of the Sources of Human Action,—the Will,—the Moral Faculty,</i>	40
4.	<i>Of the Emotions, Passions, and Affections,</i>	56
5.	<i>Reflex Senses,</i>	62
6.	<i>Theory of the Mind,</i>	69

II. Logic.

INTRODUCTION, 72

1.	Of Logic, as an Art,	76
2.	Of Logic, as a Science,	85
3.	Principles of the Science of Logic, deduced from Language,	95
4.	Rules for studying Nature,	103
5.	Of Sophistry,	107

III.

CONTENTS. xiii

III. Metaphysics.

Ch.	Pag.
INTRODUCTION,	112
1. <i>Of Ontology</i> - -	115
2. <i>Science of Evidence,</i> -	126

PART II.

INTRODUCTION,	131
---------------	-----

I.

Application of the First
Principles of Philoso-
phy to Subjects of
Taste.

INTRODUCTION,	135
1. <i>Science of Criticism,</i> -	139
2. <i>Art of Criticism,</i> -	149
II.	

xiv CONTENTS.

Ch.

Pag.

H.

Application of the First
Principles of Philoso-
phy to the Subjects
of Science.

INTRODUCTION, 166

1. *Philosophy of Lord Bacon*, 170

2. *Philosophical arrangement
for the study of Nature*, 185

III.

Application of the First
Principles of Philoso-
phy to the Subjects of
History.

Introd.

CONTENTS. xv

Ch.		Pag.
-----	--	------

	INTRODUCTION.	203
--	---------------	-----

1.	<i>History of Philosophy and Letters — previous to the Rise of the Grecian Free States,</i>	208
----	---	-----

2.	<i>— from the Rise of the Grecian Free States to the Fall of the Roman Republic,</i>	213
----	--	-----

3.	<i>— from the Fall of the Roman Republic to the Revival of Learning in Europe,</i>	219
----	--	-----

4.	<i>— from the Revival of Learning in Europe to the present time,</i>	227
----	--	-----

5.	<i>Reciprocal influence of Philosophy and Civilization in their Progress and Decline,</i>	234
----	---	-----

FIRST

CONTENTS

Page

Introduction 203

1. History of the Republic 203

2. The Republic 203

3. The Republic 203

4. The Republic 203

5. The Republic 203

6. The Republic 203

7. The Republic 203

8. The Republic 203

9. The Republic 203

10. The Republic 203

11. The Republic 203

12. The Republic 203

13. The Republic 203

14. The Republic 203

15. The Republic 203

16. The Republic 203

17. The Republic 203

18. The Republic 203

19. The Republic 203

20. The Republic 203

21. The Republic 203

22. The Republic 203

23. The Republic 203

FIRST PRINCIPLES

OF

PHILOSOPHY.

INTRODUCTION.

I.

Of Philosophy.

I.

Origin and Object of Philosophy.

PHILOSOPHY is derived
from the observation of Na-
ture.

Its object is to examine the pro-
perties and relations of her works,
A and

2 FIRST PRINCIPLES Introd.

and to discover the laws which they follow.

These laws are as different as the subjects which Nature presents to the observation of the human mind.

The progress of mankind in observing them has been slow and unequal.

The character of the subjects necessarily determines the general departments of philosophy.

2.

General departments of Philosophy.

LOGIC, or General Philosophy;
which treats of the method of observing and applying the laws of Nature.

PHYSICS ;

Introd. OF PHILOSOPHY. 3

PHYSICS; which treat of the laws of material objects.

ETHICS; which treat of the actions of mankind.

The subdivisions in these departments are termed Sciences.

3.

Sciences.

The knowledge of the laws of Nature, in any general or particular department, constitutes a science.

The observation of Nature which gives the knowledge of any science, must be accurate and full.

It must be marked in plain and precise terms.

4 FIRST PRINCIPLES Introd.

These terms describe the progress of the human mind, in discovering the laws of Nature.

Though apparently detached subjects, they have a marked relation to each other.

They are the common language of all the sciences, and rise to view in the following simple order.

Phaenomenon,—any appearance or fact in Nature.

Effects and Causes. Effects,—the changes of phaenomena leading to acting powers, or—Causes.

Philosophical Arrangement, —classing phaenomena, effects and causes, by observation or analysis of their qualities and relations.

Induction—inferences of the human understanding from Philosophical arrangements.

Law

Law of Nature,—the rules by which Nature acts, discovered by induction from observation and experiments.

Analytical Method,—progress of induction in establishing, or examining a history of Nature.

Synthetical Method,—progress of induction, or reasoning, from established principles.—

Principles,—maxims deduced from the laws of Nature, to express their purpose, department, and tendency.

Theory,—the application of the laws of Nature to explain particular phaenomena.

Hypothesis,—supposing a general quality, and resting the evidence of its existence on its apparent fitness to account for phaenomena.

6 FIRST PRINCIPLES Introd.

The end of Science is to create
and to improve the Arts.

4

Arts.

An Art is the application of the
laws of Nature to some useful pur-
pose in life: —

The objects of the Arts exhibit
their characters, and furnish a sim-
ple division of them.

The general objects of the arts
are pleasure, utility, and know-
ledge.

A corresponding division of them
arises from their objects.

Fine arts.

Mechanical arts.

Liberal arts.

H.

Of the First Principles of
Philosophy.

I.

*Nature and Object of the First Prin-
ciples of Philosophy.*

THE First Principles of Philo-
sophy delineate the progress of the
human mind, in successful observa-
tion and reasoning on Nature.

The object of such Principles is,
to explain the method of discover-
ing the laws of Nature, by obser-
vation of phaenomena, and of ap-
plying these laws to the useful and
elegant Arts.

The

8 FIRST PRINCIPLES Introd.

The First Principles of Philosophy divide themselves into two parts : —

1. The method of observing and discovering the laws of Nature.
2. The application of this method to the different subject of Taste, Science, and History. —

2.

General Arrangement.

PART FIRST comprehends the following Sciences :

1. PNEUMATOLOGY ; or, The Science that explains the Natural History

History of the Powers and Faculties of the Human Mind.

2. LOGIC ; or, The Science that explains the method of directing our faculties in observing and applying the laws of Nature.

3. METAPHYSICS ; or, The Science that explains the foundations of the other Sciences and Arts, with the evidence which demonstrates their laws.

PART SECOND comprehends the following Articles :

1. APPLICATION of the First Principles of Philosophy to the subjects of Taste.

2. APPLICATION of the First Principles of Philosophy to the subjects of Science.

3. AP-

10 FIRST PRINCIPLES, &c.

3. APPLICATION of the First Principles of Philosophy to the subjects of History.

the FIRST

FIRST PRINCIPLES.

OF

PHILOSOPHY.

PART I.

General Arrangement.

THE First Principles of Philosophy explain the method of observing and studying Nature.

The Study of Nature requires—
a knowledge of—

—the faculties, which the human mind possesses for observing nature —

—the

—the method of directing these faculties to their proper objects —

—the characters of different phaenomena, and of the evidence which demonstrates the different laws of Nature.

The Sciences of Pneumatology, Logic, and Metaphysics, furnish these requisites.

They are the natural introduction to the study of the other Sciences and Arts.

I.

PNEUMATOLOGY.

INTRODUCTION.

I.

Nature and Progress of the Science.

The Science of Pneumatology arises from the Natural History of the Powers and Faculties of the Human Mind.

These Faculties are the instruments employed in the observation of the phaenomena and laws of Nature.

B

The

14 FIRST PRINCIPLES Part I.

The laws of this Science are not to be read from abstract Metaphysics and Physiology, but to be deduced, by observation and experiment, from the natural history of the human mind and body.

Progress of the Science flow and imperfect —

—among the ancients.

—among the moderns.

2.

Arrangement.

Pneumatology comprehends an analysis of the following articles.

1. The general phaenomena of mind, as a department of Nature, distinct from body.

2. The

2. The sources of human knowledge —

—Sensation.

—Understanding.

—Consciousness.

3. The sources of human action —

—the Will.

—the Moral Faculty.

4. The Emotions, Passions, and Affections.

5. The Reflex Senses.

6. Theory of the Mind.

C H A P. I.

Of Mind as a department of Nature.

S E C T. I.

Distinctions in Nature.

The first effort of observation distinguishes the works of Nature into the classes of Body or Matter, and of Mind or Intelligence.

Body or Matter is discovered by observation of its qualities.

Matter exhibits primary and secondary qualities.

Primary qualities describe Matter :—Solidity,—Extension,—Divisibility,—Figure, &c.

Secondary

Secondary qualities refer to our Sensations :—Heat,—Cold,—Flavour,—Sound, &c.

Mind or intelligence is characterised by obvious and general attributes :—

Consciousness,

Volition,

Reasoning, &c.

Is there a distinctive nature to man ; and what are the phenomena which separate him from the lower animals ?

SECT. II.

Distinctions in Science.

The departments of Matter and

B 3

Mind

Mind furnish subdivisions, which become the subjects of particular Sciences :

Body : ———
 Mechanics, — the Science that explains the general laws of Body.

Chemistry, — the Science that explains the intimate properties of Body.

Physiology, — the Science that explains the reasons of Nature in the structure and arrangement of Bodies.

Mind : ———

Pneumatology, — the Science that explains the phaenomena of Mind.

Natural

Natural Logic, — the Science that explains the method of observing and discovering the laws of Nature.

Ethics, — the Science that explains the Principles of Human Conduct.

Natural Theology, — the Science that explains the Attributes of Deity.

SECT. III.

Principles.

1. Mind and Body have different laws.
2. The phaenomena and laws of the

the one do not explain the phaenomena and laws of the other.

3. They are different departments in Nature.

Philosophers have attempted to explain the phaenomena of Mind by those of Body, and many of the phaenomena of Body, by abstract speculations respecting Mind.

Review of the hypotheses on these subjects.

C H A P. II.

Of the Sources of Human Knowledge.

The sources of Knowledge in the Human Mind can be discovered only from the Natural History of Phaenomena.

They may be analysed under the titles of Sensation, Understanding, Consciousness.

S E C T. I.

Sensation.

The intimations which the Human
man

man Mind receives from the impression or agency of objects external to itself, are usually termed *Sensations*.

Sensations are accompanied with perceptions of objects, and of their relations.

The Natural History and Anatomy of the Human Body, discover the brain and nerves to be the organs in the animal oeconomy, on which our sensibility to objects external of the Mind depends.

Physiology deduces the reasons of Nature in fitting these organs, to convey information to the Human Mind.

Betwixt our perceptions and the external exciting cause there exists no manner of resemblance.

Sensations

Sensations are external and internal.

The particular distinctive Sensations are five: Touch, Tasting, Smelling, Hearing, and Seeing.

Touch.

Natural History discovers the whole external animal frame to be an organ of Touch.

Feeling and Touch are different; there is feeling in every nerve, touch only in the skin.

Physiology not only explains the reasons of Nature in this arrangement, but the reasons of the particular sensibility in the tongue, and in the finger, which is considered as the organ of Touch.

The

The primary qualities of Body discovered by Touch, are Solidity in all its modifications of Extension, Divisibility, Figure, &c.

The secondary qualities of Body discovered by Touch, are Heat, Cold, Roughness, Smoothness, Moisture, Dryness, &c.

The perception of the primary and secondary qualities of Body by the sensation of Touch is a law of Nature, discovered by observation and experiment.

Tasting.

Natural History and Physiology —

—of the organ and medium of Tasting.

—of

—of the sensations and perceptions of Tasting.

The secondary qualities of Body discovered by Tasting, are Sweet, Sour, Bitter, &c.

These qualities do not admit of scientific classification.

The perception of a secondary quality of Body by the sensation of Tasting, is a law of Nature discovered by observation and experiment.

Smelling.

Natural History and Physiology——

—of the organ and Media of Smelling.

—of the sensations and perceptions of Smelling.

C

Smells,

Smells, like Tastes, are Sweet, Pungent, &c.

They take their names from the objects which excite them.

They do not admit of scientific classification.

The perception of a secondary quality of Body by the sensation of Smelling, is a law of Nature discovered by observation and experiment.

Hearing.

Natural History and Physiology——

—of the Ear.

—of the mechanism of the Voice, as articulate and inarticulate.

The more general media of Sounds are elastic Bodies.

Analysis

Analysis——

—of the principles on which the production and propagation of Sounds depend.

—of Reflected Sounds.

—of the Velocity of Sounds.

—of the sensations and perceptions of Hearing.

The pleasure from Sounds arises from their connection with the Passions and Imagination.

The phaenomena which excite this pleasure are the foundations of the art of Music.

The musical Ear seems a peculiar sense, but is not explicable by any of the phaenomena hitherto detected by anatomy.

The qualities of Sounds are Sharp, Grave, &c.

The perception of a secondary quality of Body by the sensation of Hearing, is a law of Nature discovered by observation and experiment.

Seeing.

Natural History and Physiology—

—of the Eye.

—of the variations from its ordinary structure—

—Short Sight,

—Dim Sight,

—Squinting,—

Analysis—

—of Light, the medium of Vision,

sion,—Refraction,—Reflection.

—of the sensations and perceptions of Seeing, as proper and acquired.

Colour and visible extension are proper to the organ.

Solid dimensions and distances are acquired.

The motion of the Eyes is parallel.

We see objects single, though we employ a double organ.

The image is inverted on the retinae of the Eyes, but we see the object erect.

The pleasures of Sight are connected with the Passions and Imagination.

The phaenomena which excite and continue these pleasures, are the foundations of several of the elegant Arts, Perspective, &c.

The perception both of primary and secondary qualities by the sensation of Seeing, is a law of Nature discovered by observation and experiment.

* * * *

The independent existence of the objects of our Sensations has been questioned.

Origin and effects of this scepticism.

S E C T.

SECT. II.

The Understanding.

The Understanding is a general expression, denoting the powers and faculties of the human mind which are employed in the attainment of knowledge.

It is characteristically different from Sensation.

Its offices are, to observe, to compare, and to arrange phaenomena, and to infer what are the laws of Nature.

Its powers seem to have a natural succession and dependence on each other.

They

They may be delineated under the titles of Memory, Abstraction, Imagination, Intuition, and Reasoning, and Judgment.

The history of these faculties will afford inductions, descriptive of the laws of the Understanding.

Physiologists term Memory, Imagination, and Judgment, internal senses.

Memory.

The power of recalling our past perceptions.

The Memory is aided by the relations of time, place, similarity, contrast, &c. in common life.

In Science, it is chiefly aided, by the relations of Cause and Effect.

The

The habit of remembering has a common influence on both of these classes of relations.

The observation of these relations forms the Science of Memory.

The laws of this Science, if adopted as rules, seem to afford an art of Memory, or artificial Memory.

They explain several of the principles on which the evidence of Testimony depends*.

Abstraction.

The power of considering objects, or the qualities of objects, apart

* See Metaph. Ch. II.

apart from the other objects and qualities with which they are found to be connected in Nature.

Abstraction seems to be a faculty peculiar to the human mind.

Abstraction is the source——

—of Philosophical Arrangement.

—of Generalization.

—of Science.

—of Theory.

Imagination.

The power of assembling objects, qualities, and circumstances, and forming them into a new aggregate, whether fictitious or real, by a different combination.

Imagination

Imagination borrows from the faculties of Memory and Abstraction; and, on that account, its place in the history of the Understanding is subsequent to both of them.

Imagination may be distinguished into Active and Passive.

Active Imagination, or Genius, in subservience to the real properties and relations of phaenomena, has directed to new and undiscovered arrangements of them.

In subservience to our Sensations and Passions, it can extend beyond the real appearances of Nature, and combine objects, scenes, and descriptions, fitted to excite the finer feelings, and to interest the heart.

The

The Imagination, in the first of these views, shown to be the source of discoveries in the Liberal Sciences.

In the second, of brilliant productions in the Fine Arts.

Passive Imagination, or Taste, is addressed and refined by studying the productions of Active Imagination, or Genius.

Sources of the pleasures of Imagination analysed, by an enumeration of the classes of objects which excite these pleasures.

Relation of the Imagination to the Sciences and Fine Arts, explained.

Intuition and Reasoning,

Intuition,—the power by which
the

the Mind perceives the immediate agreement or disagreement of its objects, and of their relations.

Reasoning,—the power by which the Mind discovers the more distant connection of objects and relations, by introducing an intermediate object and relation.

Intuition,——the foundation of axioms ;

Reasoning,—of demonstrations.

Judgment.

The inferences of the Mind produced immediately by Intuition, or remotely by Reasoning. ✓

D

Laws

Laws of the Understanding.

1. The Human Understanding acquires its perceptions of external objects by the media of sensation, which do not resemble these perceptions.

2. The Understanding can arrange its object and perceptions by their specific qualities and relations.

3. The understanding can discover truth by intuition and demonstration.

S E C T.

SECT. III.

Consciousness.

Consciousness is the perception which the Mind has of itself in all its operations.

Consciousness——

—of Identity.

—of Sensation.

—of Intelligence.

—of Moral Principles.

Do we retain our consciousness, as in sleep, when apparently insensible?

CHAP. III.

Of the Sources of Human Action.

The Sources of Action in the Human Mind can be discovered only, from the natural history of phaenomena.

They may be analysed under the titles of the Will, and the Moral Faculty.—

SECT.

SECT. I.

Of the Will.

I.

Characters of this Faculty.

The Will is the faculty by which the mind chooses or rejects its objects.

The Will is positive or negative.

The natural progress of the Will seems to be, from deliberation, to decision, and to action.

This progress, however, is determined or counteracted by a variety of circumstances, which, from

their relation to the Will, have been termed *Motives*.

2.

Motives.

The objects and circumstances which are external to the faculty of Will, but which influence it in its operations, are termed *Motives*.

The natural history of *Motives*, comprehended under the following titles.

Propensities.

Tendencies which spring from
the

the constitution of human nature.

Propensities are frequently prior to experience.

In some cases Propensities are confirmed by experience, in others created by it.

Propensities explained, under the following titles.

Propensities to——

—Activity.

—Pleasure.

—Imitation.

—Emulation.

Opinions.

Decisions founded on apparent probability, or traditional prejudices, and confirmed by habit.

The

The characters of Opinions diversified, by the operation of the following causes——

—Temper.

—Capacity.

—Education.

—National Prejudices.

Inductions.

Accurate inferences of the understanding, after examining objects, and their relations in Nature.

Inductions influence the Will——

—from the degrees of certainty with which they are formed.

—from the pleasure or pain which they afford.

Sentiments.

Sentiments.

Habits of thinking, arising from the permanent effects produced by emotions, passions, and affections, upon the mind *.

Sentiments are diversified by the sense of——

- Morality.
- Religion.
- Delicacy.
- Character.

3

* See Chap. IV.

3.

Application of Motives.

The application of Motives explains the nature of actions, as moral or immoral.

The propriety of this application depends, on a just meaning being annexed to the terms, Motives, Action, Necessity, Liberty.—

Motives are all the external objects and circumstances which are fitted to act on the faculty of Will.

Action refers to the being possessed of the faculty, and seems to be the power of beginning, or continuing to act.

Necessity

Necessity is relative to the characters of the different faculties of the human mind.

Liberty is descriptive of the original power of acting, in the will itself.

The application of Motives has produced the hypotheses respecting Liberty and Necessity.

Principles of the Fatalist and Free-thinker compared.

The general laws of the Will deduced from the preceding classes of Motives.

4.

Laws of the Will.

1. The Will has the physical power

power of beginning and continuing action, and decides from Motives, which regard the safety and enjoyments of our nature.

This may be termed, the *Physical Law* of the Will.

2. The determinations of the Will which give an exercise to the best faculties and dispositions of the Mind, afford the greatest safety and enjoyment to the individual.

3. The determinations of the Will which direct our best faculties and dispositions to the good of others, give the greatest safety and enjoyment to mankind.

These may be termed, the *Moral Laws* of the Will.

The laws of the Will direct to the science of Moral Philosophy.

S E C T.

SECT. II.

Of the Moral Faculty.

I.

Objects of the Moral Faculty.

The objects of the faculty of moral approbation and disapprobation, are the dispositions and actions of intelligent Beings.

These dispositions and actions all refer to the original rights of human nature.

Man has an original right to his life, to the use of his reason, to his
virtue,

virtue, to the fruits of his industry, &c.

The most general description of the objects of moral approbation is deducible from these rights, and may be comprehended under the titles of Probity, Justice, and Benevolence.

Probity,—the disposition to acknowledge the rights of mankind.

Justice,—the disposition to maintain the rights of mankind.

Benevolence,—the disposition to improve the rights of mankind.

The most general description of the objects of moral disapprobation may be comprehended under the titles of Deceit, Injustice, Malevolence.

Deceit,

-Deceit,—the concealed violation of the rights of mankind.

-Injustice,—the open violation of the rights of mankind.

-Malevolence,—deceit and injustice united with the passion of revenge.

These objects address both the feelings and the understanding.

2.

Law of Morality.

The law of Morality consists in the practice of that conduct which the Moral Faculty approves.

The dispositions and actions which have the characters of probity, justice, and benevolence, are

approved of by the Moral Faculty.

The most general description of the Moral Law of our nature, may be expressed in the following terms.

Probity, Justice, and Benevolence constitute the virtue, and the happiness of human nature.

The observation of the law of Morality constitutes the chief good, or the happiness of mankind.

The happiness or good attending the exercise of the Moral Faculty, and the misery or evil which follows the neglect of it, are the sanctions of the moral law, and have been termed Moral Obligation.

Maxims deduced from the moral law have been termed Moral Principles,

Principles, and are applicable to the art of living in civil society.

The application of the moral law, to explain particular actions or cases, has been termed the Theory of Morality, or of Moral Sentiments.

The law of Morality applies to individuals, to citizens, and to nations.

When it is traced in its application to individuals, it is the science of particular Ethics, or Moral Philosophy.

When it is traced in its application to citizens, it is the science of particular jurisprudence, or the Laws of Nature.

When it is traced in its application to nations, it is the science of

general jurisprudence, or the Laws of Nations.

3.

Theories.

The objects of Ancient and Modern Moralists have been different.

The Ancients were employed in shewing the foundations of Virtue, and in stating the great distinction of good and evil, happiness and misery:

The Moderns, in assigning the principles, from which our approbation of Virtue, and the distinctions

tions of good and evil, happiness and misery, proceed.

Comparative estimate of these Theories.

CHAP.

CHAP. IV.

Of the Emotions, Passions, and Affections.

SECT. I.

Nature of Emotions, Passions, and Affections.

Emotions are pleasant or painful mental feelings simply.

Passions arise from pleasant or painful feelings, and are accompanied with strong desire or aversion.

Affections:

Affections are permanent feelings, in consequence of reflection on the real or imagined excellence of a passion, or its object.

S E C T. II.

Exciting Causes of the Emotions and Passions.

The general classes of causes which excite the Emotions and Passions, referred to the following titles.

The Animal Appetites.

The Senses.

The Imagination.

Sympathy.

Contemplation of Character.

S E C T.

S E C T. III.

Division of the Passions.

The different sciences offer divisions of the Passions corresponding to their objects, as sciences.

Direct,——Indirect.

Selfish,——Social.

Active,——Depressing.

The Pneumatologist furnishes the first, because he traces the natural history of the Passions.

The Moralist, the second, because he traces the influence of the Passions on conduct.

The

The Physiologist, the last, because he limits his attention to the influence of the Passions on the animal oeconomy.

An analysis of the particular Passions comprehended in each of these classes, will enable us to examine their comparative value.

SECT. IV.

Division of the Affections.

As the Affections chiefly regard intelligent natures, the most comprehensive division of them has been offered in the science of Ethics.

Selfish

- Selfish affections.
 - Benevolent Affections.
 - Mixed Affections.
- An analysis of the particulars comprehended in these classes will explain their utility.

SECT. V.

Language of the Passions.

The Passions have natural and universal signs.

Modulations of the voice.

Gestures*, &c.

The

* See Logic, Chap. III. § 1.

Ch. IV. OF PHILOSOPHY. 61

The expressions of the Passions
examined——

—in the arts of sculpture and
painting.

—in theatrical expression.

—in Physiognomy, &c.

F CHAP.

C H A P. V.

Reflex Senses.

Nature of Reflex Senses.

The Reflex Senses have fixed classes of objects.

They do not seem to depend on any perfection in the organs of sense, that can be detected by anatomy.

They receive refinement and bias from the understanding.

This refinement constitutes the most perfect taste*.

The

* See Part II.

The most distinguished of these Senses are, those of——

—Melody and Harmony.

—Beauty.

—Sublimity.

—Ridicule.

S E C T. I.

Of the Sense of Music.

Simple or measured tones act on the Sense of Music.

The effects of this action have been distinguished, under the titles of Melody and Harmony.

Melody seems to consist in the agreeable effect of simple sounds.

F 2

Harmony

Harmony seems to consist in the agreeable effect of measured sounds.

The pleasures from Melody are natural, and almost entirely depend on expression, which is produced, in consequence of the power of sounds to represent and excite passions, in a person possessed of a musical ear.

The pleasures from Harmony are chiefly felt from the parts of music in concert, and the taste for them is, in a great degree, formed by education and habit.

The pleasure from execution in music seems to arise, from observing an artist overcome difficulties, which seemed to render perfection in his art unattainable.

Influence

Influence of Taste in refining
the pleasures——

—of Melody.

—of Harmony.

Characters of the sense of Mu-
sic——

—of the Ancient Music.

—of the Modern Music.

S E C T. II.

Of the Sense of Beauty.

The classes of objects which ad-
dress the sense of Beauty, com-
prehended under the following
titles.

—Natural objects and arrange-

F 3

ments,

ments, in which there is a just proportion of figure, colour, motion, expression, &c.

—Artificial objects and arrangements, that are possessed of symmetry and utility, &c.

—Sentiments, which by sympathy, connect the more gentle passions with the love of virtue.

—Descriptions, furnishing the mind with an immediate perception of these objects.

S E C T.

S E C T. III.

Of the Sense of Sublimity.

The classes of objects which excite the sense of Sublimity, comprehended, under the following titles——

- Natural objects and arrangements, which have the qualities of great, vast, dark, &c.
- The depressing passions of fear, &c.
- Sentiments which, by sympathy, unite the influence of the more violent passions with the severer virtues.
- The just description of these objects.

S E C T.

S E C T. IV.

Of the Sense of Ridicule.

The sense of Ridicule general,
and its objects excentric.

The following classes of objects
address it——

- Incongruous Natural or Artificial objects and arrangements.
- Absurd Reasonings.
- Affected Sentiments.
- The lively Description more forcibly, perhaps, than the actual exhibition of its objects.

C H A P.

CHAP. VI.

Theory of the Mind.

SECT. I.

Nature of Theory.

A Theory is an application of the laws of Nature to explain particular phaenomena.

SECT.

S E C T. II.

Theory of the Human Mind.

The theory of the Human Mind is deducible from the general qualities, which have occasioned the preceding classes of its perceptions.

Theory——

—of the sources of human Knowledge: Sensation, Understanding, Consciousness.

—of the sources of human Action: the Will, the Moral Faculty.

—of the Emotions, Passions, and Affections.

—of the Reflex Senses.

The

The union of these particular theories forms the general theory of the Human Mind.

II.

II.

L O G I C.

I N T R O D U C T I O N.

I.

Nature and Progress of the Science.

Logic was originally formed an art without science.

It seems to have taken its character from the Greek literature, which preceded their science.

The

The definitions of the art, and its numerous and different divisions left by the sects, will illustrate its ancient spirit and progress.

It consisted in artificial classification, and in reasoning by fixed forms of argument.

The means it employed were categories and syllogisms.

The schools retained the definitions and divisions of the ancient art, but debased it, by introducing their own nominal and obscure distinctions.

When the sciences of Natural Philosophy and History were creating, the pernicious tendency of the Logic of Art was perceived, and in these branches of knowledge, its influence was exploded.

G

Though

Though the sciences which treat of Human Nature were assuming new and more elegant characters, yet Logic, as an art, has continued in all its sophistical forms.

From this circumstance, the science which could reform it has been neglected or contemned.

The definitions and divisions of the art offered by the moderns, will exhibit its present state and character.

Logic, considered as a comprehensive science, is to explain the progress of the human mind in observing and applying the laws of Nature.

Examples of successful discovery will shew the method of discovering, and of interpreting the laws of Nature.

The

The steps in the progress of discovery, are laws in the science of observing Nature, or of Natural Logic.

The means employed are Analysis and Induction.

2.

Arrangement.

Logic comprehends the following articles.

1. Logic, as an Art.
2. Logic, as a Science.
3. Principles of the Science of Logic, deduced from Language.
4. Rules for studying Nature.
5. Sophistry.

76. FIRST PRINCIPLES Part I. 2.

C H A P. I.

Of Logic, as an Art.

S E C T. I.

Synthesis.

Logic, as an Art, originated in the method of Synthesis.

The human mind reasons from rules, to particular cases, or from particular cases, to the formation of rules.

When rules become general, they obtain the name and authority of Principles.

Reasoning

Reasoning from principles to particular cases is the method of Synthesis.

General principles must be self-evident, or demonstrated truths.

The following classes of Principles explained.

—Simple perceptions.

—Axioms.

—Laws of Nature.

The uses of General Principles in the different sciences analysed, in—

—Mathematics.

—Physics.

—Natural History.

—Ethics.

Artificial and assumed General Principles produced the Ancient Art of Logic, or the Syllogistic Art.

SECT. II.

Syllogistic Art.

When mankind began to reason on the phaenomena of Nature, they were solicitous to abstract, and they formed general propositions from a limited observation.

Though these propositions were assumed, they were admitted as true.

They were not examined by appeals to Nature, but by comparison with other propositions.

They insensibly acquired the authority of Principles.

The transition from partial abstractions to general propositions, and

and the adopting of these propositions, as first principles, common to all early and imperfect inquirers.

The Peripatetic philosophy will furnish an historical proof of this observation.

Aristotle furnishes the two great branches of the Art of Ancient Logic, the Categories, and Analytics or Syllogisms.

The Categories were artificial titles, under which all knowledge was to be arranged.

They were ten in number, viz. Substance, Quantity, Quality, &c. and were attended with the Predicables.

The manner in which both were applied, will explain their character and uses.

Syllogisms

Syllogisms were artificial forms of argument, by which the mind was to reason in the discovery of truth.

They were deducible from the following principles:

1. Things which agree with the same thing, agree with one another.

2. Things whereof one does, and one does not, agree with the same thing, do not agree with one another.

They consisted of Logical propositions.

A proposition was any affirmation or negation of the mind.

The affirmation or negation was the quality of the proposition.

Its comprehending a particular or an universal, its quantity.

Mechanism

Mechanism of Logical propositions.

—The Subject.

—The Predicate.

—The Copula.

The Syllogistic Art consisted in uniting propositions to form an argument.

Regular Syllogisms comprehended three propositions.

—The Major.

—The Minor.

—The Conclusion.

The mechanism of the figures and modes of the Syllogism discovers singular invention and art.

Irregular Syllogisms consisted of less, or more than three propositions.

The Syllogistic Art was without science.

It

It guided the reasonings of Philosophers for two thousand years, and is a venerable monument of ancient genius.

S E C T. III.

Abuses and Uses of the Syllogistic Art.

Abuses:—

- 1. It corrupted the taste for Philosophical invention, by placing all Philosophy in Abstraction, and withdrawing it from the observation of Nature.

—2.

—2. It created a reliance on Principles, which originated in the hypotheses of Philosophers, not in the laws of Nature.

—3. It made truth the result of the forms of argument, not of scientific evidence.

Historical account of the operation of these abuses in retarding the progress of knowledge.

Historical account of the circumstances, which have in some instances destroyed, in others, limited their operation.

Uses : —

—1. It is fitted to reduce theories to simple propositions and arguments.

—2.

84 FIRST PRINCIPLES Part I. 2.

—2. It is fitted equally to support, and to detect specious opinions in business.

These uses illustrated by examples.

CHAP.

CHAP. II.

Of Logic, as a Science.

SECT. I.

Analysis and Induction.

Logic, as a Science, originates in the methods of Analysis and Induction.

The method of Analysis is the method of Nature.

It proceeds from the observation of particular phaenomena to the discovery of the real arrangements of Nature, and examines arrange-

H

ments,

ments, by bringing back observation to particular phaenomena.

Induction infers from the arrangements of Nature what are laws of Nature, and applies them as Rules and Theories to explain new phaenomena.

The analysis of any part of Nature is equivalent to its Natural History.

An induction from an analysis of any part of Nature is equivalent to its Natural Philosophy.

The rise of Analysis and Induction, and their influence in improving the science of observing Nature, illustrated by the following circumstances :

Origin of Taste in Italy.

Progress of Mathematics and of Natural Philosophy.

The

The *novum organum* of Lord Bacon*.

S E C T. II.

Science of Analysis.

'The science of Analysis consists, in observing and discovering the arrangements of Nature.

It proceeds, by Composition and by Decomposition.

Composition traces objects by their qualities, to the classes and relations which they hold in Nature.

H 3

Decom-

* See Part 2.

Decomposition examines classes and relations which are apparently general, by reducing them to the simple phaenomena which they comprehend.

Composition——

—Individual.

—Species.

—Genus.

Decomposition——

—Genus.

—Species.

—Individual.

Composition and Decomposition of phaenomena furnish the law of Analysis, in the science of observing Nature.

Analysis is absolute and relative.

It is absolute, when it raises observation to first qualities in Nature.

It

It is relative, to the characters of the different subjects, which it examines.

The specific characters of Analysis explained in——

- Mathematics.
- Natural Philosophy.
- Natural History.
- Ethics.
- the Fine Arts.

S E C T. III.

Science of Induction.

The science of Induction consists in deducing from the classes of phaenomena ascertained by ana-

H 3 lysis,

lysis, what are the laws of Nature in each of them.

The phaenomena which afford an Induction-descriptive of a law of Nature, must be——

—Obvious.

—Uniform.

—Universal.

The means of ascertaining these characters of phaenomena, are observation and experiment.

Experiments take their character from the phaenomena to which they are directed, and are specific to every science.

Description of the experiments proper to——

—Natural History.

—Natural Philosophy.

—Pneumatology.

—Ethics.

The

The subjects which admit of Induction are, the whole sciences, and the useful arts, which they create.

Induction in every science takes its characters of more or less positive——

—from the nature of the phaenomena which the science explains.

—from the degrees of accuracy, with which experiments continue the chain of phaenomena, and of reasoning.

• Sir Isaac Newton gave an accurate analysis and induction of the laws of the material system, and inferred from them the following axioms.

1. The

1. The causes only are to be admitted into any science, which are true, and sufficient to explain phaenomena.

2. Effects of the same kind may be ascribed to the same causes.

3. The qualities of phaenomena discovered by experiments, may be considered universal qualities of phaenomena of the same kind*.

These axioms shewn, to be universal axioms, for the study of Nature.

Analogy has frequently been confounded with Induction.

Analogy signifies reasoning from resemblances, which subsist betwixt phaenomena.

Induction signifies reasoning from the sameness of phaenomena.

Comparative

* Newt. Princip.

Comparative view of the effects of Analogy and Induction.

The following General Laws of Inductive Philosophy explained, by applying them to the subjects of the different sciences.

1. Induction reasons from the arrangements of analysis by experiments, which continue the chain of phaenomena, to the most general facts and laws of Nature.

2. The evidence of the truth of an induction, must be the obvious means which connect particular phaenomena and arrangements with general facts and laws of Nature.

3. The laws of Nature discovered by Induction, must be the rules and theories which form, improve, and explain the Arts.

S E C T. IV.

*Relation of the Science of Logic to
the other Sciences.*

The science of Natural Logic is
the mean of examining the whole
of Nature,

The analysis and induction of
which it consists, have created and
improved the sciences of Natural
History and Natural Philosophy.

The sciences to which Analysis
and Induction have not been ap-
plied remain defective*.

* See part 2.

C H A P. III.

Principles of the Science of Logic,
deduced from Language.

S E C T. I.

Origin and Fabric of Language.

Language denotes the whole
means by which mankind express
their thoughts :——

Language is——

—Natural.

—Artificial.

Natural Language has fixed clas-
ses of signs :——

—Modification of Features.

—Gestures.

—Modulations

—Modulations of the Voice.

The arts employed by Language, furnish the following classes.

Words.

Mute Signs.

Written Characters.

The science of Grammar, which analyses these arts, treats of the parts of Speech, and of their application.

S E C T. II.

Science of Logic and Language.

Logic is the science of observing Nature.

Language furnishes signs for every step in this observation.

Logic

Logic and Language have the connection of thought, and the expressions of thinking.

They are subjects of Analysis in their——

—Composition.

—Decomposition.

Subjects of Induction, by furnishing phaenomena, which are——

—Obvious.

—Uniform.

—Universal.

The branches of Natural Logic, viz. *Analysis*, *Induction*, and *General Arrangement*, have their corresponding signs, in the science of Grammar.

I

SECT.

S E C T. III.

Theory of Analysis.

Philosophical Analysis comprehends the progress of the Human Mind in observing and classing objects, by their nature, and obvious qualities.

The parts of Language exhibiting signs for this progress, belong to the classes of Substantives and Adjectives.

By Induction.

From Proper Nouns and Pronouns——

—Individual objects.

From Common Nouns,——

—Particular

—Particular Classes, or Species.

From Adjectives,——

—Qualities of Objects, and of Classes.

From Abstract Nouns,——

—General Classes, or Genera.

SECT. IV.

Theory of Induction.

Philosophical Induction explains the operations of the Understanding, in deciding on the laws of Nature, in individuals, and classes of objects.

Substantives,

100 FIRST PRINCIPLES Part I. 2.

Substantives, adjectives, verbs, and adverbs, furnish signs for the subjects of judgment, and for the various methods of judging.

By Induction.

From Substantives and Adjectives,——

—The two first terms of Propositions.

From the Modes and Tenses of Verbs,——

—The third term of Propositions.

From Adverbs,——

—The modification of the third term of Propositions.

S E C T.

SECT. V.

Theory of General Arrangements.

General Arrangements comprehend the method, by which the known relations betwixt objects, and classes of phaenomena, may be extended, in order to discover phaenomena and laws of Nature, which are universal.

• Propositions and conjunctions furnish signs, for continuing the relations betwixt names and propositions, in order to form a demonstration, or a description.

102. FIRST PRINCIPLES Part I. 2.

By Induction.

From Prepositions,——

—The relations betwixt the parts of the same Proposition.

From Conjunctions,——

—The relations betwixt different propositions.

The principles of Natural Logic, deduced by these theories, from syntax as established by universal grammar*.

The analysis and induction which have improved the sciences of Natural History and Philosophy, are similar to the analysis and induction of Language and Logic.

* See Part II.

CHAP.

C H A P. IV.

Rules for Studying Nature.

S E C T. I.

*Character of Rules for the study of
Nature.*

The rules which are fitted to direct in the study of Nature, must themselves be laws of Nature, or practical inferences from them.

They can only be used as rules of art, when attended with a knowledge

ledge of the science, which has discovered them.

The laws of the science of Logic have these characters.

They may be directed to the acquisition of the Sciences, and to the practice of the Arts.

S E C T. II.

Arrangement of Rules for the study of Nature.

The arrangement of rules for the study of Nature, must follow that of the laws, of which they are transcripts.

- I. Rules for philosophical observation

ervation and analysis explained,
as they regard——

—the phaenomena of the different Sciences.

—the observation and experiments which apply to them.

—the systems which they are to decompose.

2. Rules for philosophical arrangements explained, as they regard——

—the species and genera which compose Nature.

—the principles on which the histories of Nature have been formed.

3. Rules for philosophical induction explained, as they regard——

—the demonstration of the laws of Nature.

—the

106 FIRST PRINCIPLES Part I. 2.

—the application of the laws of
Nature.

4. Rules for philosophical theories explained, as they regard——

—the formation of theories.

—the diversity of theories.

—the application of theories.

CHAP.

CHAP. V.

Of Sophistry.

SECT. I.

Nature and Progress of Sophistry.

Sophistry is the application of the method of Science, and of Argument, to establish what is uncertain or false.

It arises from an imperfect knowledge of the faculties of the human mind, and of the subjects, to which they can be directed.

The

The Ancient Sophists seem to have had an imperfect knowledge of the faculties of the human mind, and their Sophistry chiefly appears in their reasonings.

The modern Sophists seem to have an imperfect knowledge of the proper subjects of Philosophy, and their Sophistry chiefly appears in their science.

Sophistry may be divided into two great branches.

—Sophistry in Science.

—Sophistry in Argument.

S E C T.

SECT. II.

Sophistry in Science.

Sophistry in Science referred, to the following classes of causes.

To obscure Perceptions——

—from defects in, or neglect of the organs of sense.

—from defects in, or neglect of the faculties of the Understanding.

To incomplete Analysis——

—of Nature.

—of Systems.

To artificial Arrangements——

—by supposing Qualities.

—by assuming Principles.

To false Inductions——

K

—from

110 FIRST PRINCIPLES Part I. 2.

—from imperfect Demonstra-
tions.

—from the love of Subtility.

To hypothetical Theories——

—from the love of System.

S E C T. III.

Sophistry in Argument.

Sophistry in Argument, or Reasoning, referred to the following classes of causes.

—Ignorance of the relation subsisting betwixt Logic and Language: or, betwixt Observation and Reasoning, and the signs of Observation and Reasoning.

—The

—The inaccuracies and ambiguities of Language.

Artificial Logic furnishes names, for the different species of Sophistry in Argument :—

—Ignorantia Elenchi,

—Petitio Principii,

—Non causa pro causa,

—Fallacia accidentis,

——divisiones,

——grammatica,

&c.

The science of observing Nature applied, as the proper means of preventing, and correcting Sophistry in Science, and in Argument.

112 FIRST PRINCIPLES Part I. 3.

III.

METAPHYSICS.

INTRODUCTION.

I.

Nature and Progress of the Science.

The science of Metaphysics explains the foundations of the other Sciences and Arts, with the evidence, which demonstrates their Laws.

The Sciences and Arts are created by the discovery of general facts in Nature.

General

General facts are discovered, by analysing the qualities, which distinguish one department from another, and the qualities, which are common to the whole of Nature.

These facts are the foundations of the Sciences and Arts.

Ancient Metaphysics, or the science of Universals,——

—Originated in artificial subtleties.

—Distinct from Physics and Mathematics.

—Neglected the observation of real phaenomena.

—Exhibited a collection of abstract conceptions regarding Nature, and of the principles, by which it was *supposed* to act.

Metaphysics in the middle ages equally abstruse, and removed from the observation of Nature.

Modern

114 FIRST PRINCIPLES Part I. 3.

Modern Metaphysics have less assumed the spirit of science, than of party.

Parties have contended for speculative opinions, not for discoveries, or useful knowledge.

The abuse of this science, an inducement, to attempt an analysis of its proper subjects.

2.

Arrangement.

The science of Metaphysics comprehends the following articles.

1. Ontology.
2. The Science of Evidence.

C H A P.

CHAP. I.

Of Ontology.

SECT. I.

Nature of Ontology.

The Sciences are all directed to real phaenomena, or existences in Nature.

Ontology explains the most general conceptions, which the Human Mind forms respecting these phaenomena.

The knowledge of it is not intuitive,

tuitive, but the result of observation, and experiment.

S E C T. II.

Of Substance.

The Existences which we perceive in Nature, are Body and Mind.

The human faculties can discover nothing of the essences of Substance, but collect general facts, from the observation of particular objects.

The idea of Substance is suggested, by an assemblage of real qualities.

These

These qualities are termed *Attributes*.

Substance——

—Material.

—Immaterial.

SECT. III.

Space.

Space signifies simple extension, unconnected with Substance.

Space is——

—Immoveable.

—Indivisible.

—Unbounded.

Space is absolute and relative.

Absolute Space is the place of every existence.

Relative

118 FIRST PRINCIPLES Part I. 3.

Relative Space, the situation of one existence, with respect to another.

History of the hypotheses respecting Space.

The contemplation of unbounded Space is one source of the sublime.

SECT. IV.

Duration.

Duration is suggested to the Human Mind, by the succession of its perceptions, whether of sensation, or of reflection.

Duration is absolute and relative.

Absolute

Absolute Duration is independent of every other succession.

Relative Duration refers to events in succession.

The perception of Motion is comprehended, in the relation of Space and Duration.

Duration is measured by the relation which it admits of with extension.

Measures of Duration :—

—Astronomical.

—Civil.

Our feelings of the elapse of Time, are measured,—

—by the character of the objects, which engage the attention.

—by the character of our passions.

S E C T.

S E C T. V.

Quantity.

Quantity signifies what is susceptible of increase, diminution, and measure.

Quantity is the only object of science, which admits of a perfect measure ; and it can be measured only, by itself.

Quantity is divided into proper and improper.

Proper quantities are measured by quantities of the same kind.

Improper quantities are measured by quantities of a different kind.

Quantity

Quantity is numbered and measured.

In number, we abstract from objects every quality, but their individuality.

In measure, every quality, but their extension.

Quantity numbered,——

—Arithmetic.

Quantity measured,——

—Geometry.

Quantity simply is the object of Pure Mathematics.

Quantity applied, as the measure of material phaenomena, is the object of Mixed Mathematics.

L

SECT.

S E C T. VI.

Power.

The conscious activity of the Human Mind gives the conception of a power.

The changes which we observe in the phaenomena of Nature, and the assemblage of circumstances uniformly conjoined with them, indicate Effects and Causes.

Effects and Causes.—

—Physical, appear in the fixed order of Nature.

—Moral, in intelligent natures.

—Final, in intention and design.

—Sketch

—Sketch of the Hypotheses
on these subjects.

S E C T. VII.

Of Deity.

All observation of Nature terminates, in the discovery of the attributes of a First Cause, or of a Deity.

The attributes of Deity, or of a First Cause, are indicated to man, by effects, in the material and intelligent departments of Nature.

Physical Attributes :—

- Power.
- Unity.
- Intelligence.

Moral Attributes:—

—Justice.

—Goodness.

S E C T. VIII.

The Human Soul.

The Human Soul possesses qualities distinct from, and apparently opposite to, all the known qualities of Body.

From the nature of the qualities of the Soul, we infer its immateriality.

From the nature of these qualities, and from the moral attributes of the Deity, we infer its immortality.

Review—

—of

—of the Hypotheses on these subjects.

—of the facts in Nature.

SECT. IX.

Instincts of the Brutes.

Comparative view of the faculties of man, and of other animals, in the articles of—

—Sensations.

—Intellects.

—Active Principles.

C H A P. II.

Science of Evidence.

S E C T. I.

Nature of Evidence.

The means by which Truth is established, are termed *Evidence*.

Truth signifies the perception of the Human Mind, respecting the reality of its objects, and of their relations.

Truth is the end, for which Evidence is applied.

The science of Evidence consists

sists in an analysis of the different means which establish Truth.

These means constitute the different kinds of Evidence, and the application of them, the kinds of Truth.

SECT. II.

Kinds of Evidence.

Evidence in Science descends, from absolute to probable.

Evidence—

—of Consciousness and Intuition.

—of Sensation.

—of Effect and Cause, or, of the Understanding.

The

The Scientific kinds of Evidence comprehend those kinds, which are employed to establish facts and events, viz. Testimony, &c.

S E C T. III.

Kinds of Truth.

Different degrees of certainty are established, by the application of Evidence :——

—Intuition and Perception :——

—Personal Identity.

—Intellectual Powers.

—Axioms.

—Material Objects.

—Demonstration,——

—in Metaphysics.

—in Mathematics.

—in

- in Physics.
- in Ethics.
- Proof approaching to Demonstration :——
- Facts.
- Events.
- Probability :——
- Partial knowledge of effects and causes in Nature.
- Calculation of chances.
- Analogical reasonings.

The different sciences require different kinds of evidence, and afford corresponding degrees of certainty.

The uses of Evidence in the business of life, chiefly appear in the application of it, in Municipal laws.

The

130 FIRST PRINCIPLES Part I. 3.

The objects of Municipal laws
are, Rights and Crimes.

Philosophical analysis of the e-
vidence——

- of Rights, viz ;
 - Public consent.
 - Testimony.
 - Records.

- of Crimes, viz ;
 - Confession.
 - Previous malice.
 - Testimony.

Historial sketch of the manner,
in which these kinds of evidence
vary, from the Law of Nature, in
different Municipal Institutions,
particularly, in the English, and
Scotch Laws.

FIRST

FIRST PRINCIPLES

OF

PHILOSOPHY.

PART II.

Application of the First Principles of Philosophy, to the different Subjects of Taste, Science, and History.

I.

INTRODUCTION.

THE First Principles of Philosophy apply, to all the Subjects of Nature, and of Art.

These

These principles are copies of the laws of the human mind, in successful discovery ; and therefore, hold forth the method of discovering.

The application of them may be directed, to the different subjects of Taste, Science, and History.

The application to the *Subjects of Taste*, should proceed on a Natural History of the objects and Laws both of that fine faculty, and of Genius.

These Laws may be adopted as Rules, for judging either of the fine arts in general, or of the art of Criticism, in particular.

The application to the *Subjects of Science*, should display its different Branches, in the order, in which they are fitted to be evolved by human understanding.

The

The Application of them to the *Subjects of History*, should display the actual progress of Civility and Philosophy, as they have alternately fluctuated, from rudeness, to refinement.

From this Introduction to a liberal education, the student may select the objects, which are suited to his peculiar genius, or to his Business in Life.

2.

General Arrangement.

1. Application of the First Principles of Philosophy to the Subjects of Taste.

M

2. Appli-

134 FIRST PRINCIPLES Part II.

2. Application of the First Principles of Philosophy to the Subjects of Science.

3. Application of the First Principles of Philosophy to the Subjects of History.

I.

I.

APPLICATION of the First
Principles of Philosophy,
to the Subjects of Taste.

INTRODUCTION.

I.

*Object, Nature, and Progress of this
Science.*

The object of applying principles
of philosophical observation, to the
Subjects of Taste, is, from the hi-

136 FIRST PRINCIPLES Part II. I.

story of the phaenomena in nature and in art, which address the finer faculties of the mind, to deduce the Laws which they follow.

These Laws may be adopted as Rules, for judging of the finer productions of art.

The fine arts of antiquity afforded objects and descriptions, which forcibly addressed the human feelings, and imagination.

The observations of Philosophers, on the character of these objects and descriptions, have been considered as Rules, and the application of them termed, *the Art of Criticism*.

This art early acquired degrees of perfection, for the critics copied from artists, who had copied from Nature.

This

This circumstance distinguished their art, from the progressive character of all the other arts.

Like the Philosophers, the Critics hastened to form Systems.

History of ancient Criticism—

The ancient systems continued ministering to the elegant pleasure of judging in the fine arts, when the arts themselves, like Philosophy, ceased to be inventive.

With the fine arts of antiquity, the Rules of ancient Criticism revived.

These rules were implicitly copied, till true philosophy fixed the attention of mankind, on the observation of Nature.

History of Modern Criticism.

The art of Criticism, like every

M 3 other

other art, requires its Science, to explain and improve it.

This Science can only be established, by the application of philosophical principles to the phenomena, which the different subjects of Taste present.

2.

Arrangement.

1. Science of Criticism.
2. Art of Criticism.

C H A P.

CHAP. I.

Science of Criticism.

INTRODUCTION.

I.

Nature of the Science.

The Science of Criticism consists in the observation and arrangement of the phaenomena, in nature and in art, which produce the most elegant pleasures of the mind,
by

by addressing and refining the faculties of Genius and Taste.

2.

Arrangement.

1. History of the natural objects of Genius and Taste.
2. History of the artificial objects of Genius and Taste.
3. History of the Faculties of Genius and Taste.

S E C T.

SECT. I.

*History of the Natural Objects of
Genius and Taste.*

The natural objects of the Faculties of Genius and Taste, may be observed, as they produce the finer pleasures of Sensation, Imagination, and Passion.

The pleasures of Sensation are chiefly those of sight and sound.

Pleasures of sight ;—

—organic.

—dependant on the qualities
of colour,—figure,—mo-
tion,—situation,—symme-
try,—animation,—expres-
sion.

Pleasures

Pleasures of Sound ;—

—organic.

—dependant on the kinds,—
disposition,—affociations,—
and expreffions of tones.

Pleasures of Imagination, traced ;

—To fimple fenfations.

—To the reflex fenfations of
Mufic,—Beauty,—Subli-
mity,—Ridicule *.

—To affociations of both
fimple and reflex fenfations,
with the paffions.

—To affociations of all of
thofe Claffes, with Moral
Sentiments.

Pleasures of the paffions traced,
to the characters †;—

—of fimple Emotions.

—of

* See Pneumatology, Ch. V.

† Ibid. Ch. IV.

- of direct passions.
- of indirect passions.
- of affections and sentiments, which terminate in new passions.

S E C T. II.

*History of the Artificial Objects of
Genius and Taste.*

Art is the result of Ingenuity and Industry, exhibiting Nature.

The fine arts of Poetry, Music, Sculpture and Painting, and Architecture, admit of this general description, and are fitted to address, and polish the faculties, which have created them.

Poetry

Poetry analysed ;—

—In its relation to the natural objects of Genius and Taste*.

—In the species of art, with which it addresses these faculties, viz.

—Epic Poetry.

—Dramatic Poetry.

—Lyric Poetry.

—Didactic Poetry, &c.

Music analysed :—

—In its relation to the natural objects of Genius and Taste†.

—In the species of art, with which it addresses these faculties, viz.

—Melody.

—Harmony.

Sculpture

* See the preceding Sect.

† Ibid.

Sculpture and Painting analysed;

—In their relations to the natural objects of Genius and Taste*.

—In the species of art with which they address these faculties, viz;

—Statuary.

—Reliefs.

—Landscape Painting.

—Historical Painting.

Architecture analysed.——

—In its relation, to the natural objects of Genius and Taste†.

—In the species of art, with which it addresses these faculties, viz;

—The Antique.

N

—The

* See the preceding Sect.

† Ibid.

146 FIRST PRINCIPLES. Part II. 1.

- The Ancient or Greek.
- The Gothic.
- The Modern.

S E C T. III.

*History of the Faculties of Genius
and Taste.*

The Faculty of perceiving and exhibiting the objects and arrangements in Nature and in Art, which are fitted to refine the Mind is Genius, or active Imagination, in connection with Taste.

The Qualities of Original Genius in the fine arts explained, under the titles of—

—Vivid

—Vivid perceptions of the objects of the faculty.

—Simple and bold exhibitions of them.

—Chaste and animated descriptions of them.

Taste, or passive Imagination, is the faculty of receiving refinement, from the Perception and Study of the objects and arrangements in Nature and in Art, which successfully addressed and employed Genius.

The Qualities of original Taste, analysed, under the titles of—

—Sensibility.

—Simplicity.

—Elegance.

The Qualities of acquired Taste, analysed under the titles of—

—Delicacy.

—Correctness.

The varieties of Taste referred,
to the following different Causes.

—Degrees of Sensibility.

—Education.

—National objects.

—Progress of Civility.

—Progress of Arts and Sci-
ences.

Is there a standard of Taste?

—Sketch of the Speculative Solu-
tions of this Question.

Philosophical analysis of it.

—By references to the natu-
ral objects of the faculty
itself.

—By references to the copies,
imitations, and descriptions
of these objects, in the dif-
ferent fine arts.

CHAP. II.

Art of Criticism.

INTRODUCTION

I.

Nature of the Art.

The Art of Criticism founded on its Science, consists in the application of the Laws of Genius and Taste, as rules, to direct the Mind in judging of the fine arts.

N 3 The

The same philosophical analysis is demanded in the art, which was necessary in the Science.

When the Fine Arts in general are the Subjects of Criticism, the exhibition of Models must accompany the formation of Rules.

In this case, the approaches of art copying nature, or exhibiting objects fitted to address the finer senses, the imagination and the passions, will discover Genius in the artist, and furnish Rules of Taste to the Spectator.

Nature, by this means, and the works of Masters in the fine arts will become the Standards, from which just canons of Taste can be formed.

When Language is the Subject of Criticism, its foundations in Nature

Ch. II. OF PHILOSOPHY, 151

ture and in Taste, must be evolved and explained.

These facts point out an arrangement of the Subjects in the art of Criticism.

2.

Arrangement.

1. Philosophy of Language, or of Grammar.
2. Philosophy of Composition, or of Rhetoric.

S E C T.

S E C T. I.

Philosophy of Language, or of Grammar.

Language denotes the whole means, by which mankind expresses the judgments and feelings of the mind.

The Philosophy of Language consists in an Analysis of its Structure and figures.

The Structure of Language shews the parts of Speech accommodated to the progress of the mind in observing and reasoning on Nature.

—Variety

Variety in the Structure of Languages referred :—

—To the Situation and objects of a people.

—To their original and mixed characters.

—To the kinds of their Literature and philosophy.

The Figures of Language are Signs, that the objects of the finer senses, the imagination and the passions have acted on the faculties of Genius and Taste*.

The following seems to be the order of Nature, in which, the figures from the finer Senses and Imagination rise in marked succession.

Periphrasis.—Introducing striking and even fancied qualities.

* See the preceding Ch.

lities and circumstances, to allure and fix the attention on an object.

Simile.—Comparing these striking and fancied qualities and circumstances, in different objects.

Metaphor.—Contracting the Simile, by keeping the Subjects distinct in the Mind, but not in the expression.

Allegory.—A chain of concealed Metaphors.

Antithesis.—Comparison, by opposition.

Amplification.—A chain of antitheses.

Vision.—An animated description, both of objects and of the feelings they excite.

Illustrations

Illustrations from examples, of this progressive Line of the Figures in the Language of the Imagination.

The following seems to be the order of Nature, in which the figures from the finer senses and the passions rise in an equally marked succession.

Hyperbole.—An exaggerated expression of passion, without losing sight of its object.

Personification.—Forgetting the object of the passion, and giving Life and Character to those on which the passion accidentally fixes.

Apostrophe.—Passion intermixing alternate reflexions with feelings.

Interrogation.

Interrogation.—Empassioned demands on, and supposed answers from the object of the passion and from the passion itself.

Exclamation.—Wild and violent complaints to, and of the object, and of the passion itself.

Illustrations from examples, of this progressive line of the figures in the Language of the passions.

SECT.

S E C T. II.

Philosophy of Composition, or of Rhetoric.

Composition is the application of Language, both in Structure and in figures, to give accurate and chaste descriptions of the feelings and judgments of the mind.

The Philosophy of Composition, or of Rhetoric consists, in an analysis of the Language which is suited to the various subjects of observation, and of Taste.

The Branches of Rhetoric are, Syntax and Style.

I.

Syntax.

When Syntax is in the order of Nature, it connects the parts and figures of Speech, as objects in Nature and in Taste are connected; and seems to proceed on the following principles.

1. Substantives and Adjectives have the same relations in all Languages, that objects and qualities have in Nature.

2. Common and abstract Nouns have the same relations in all Languages, that Individuals, Species, and Genera have in Nature.

3. Verbs,

3. Verbs and Adverbs have the same relations in all Languages, that the Subjects and judgments of the mind, with their modifications, have in Nature.

4. Prepositions, Cases and Conjunctions have the same relations in all Languages, that the Subjects, judgments and descriptions of the understanding have in Nature.

5. The figures from the finer senses and Imagination, follow the same order in chaste Language, that the objects of the finer sensations and Imagination followed in Nature, in addressing the faculties of Genius and Taste.

6. The figures from the finer senses and the passions follow the same order in chaste Language, that the objects of these senses, and

passions in Nature followed, in addressing the faculties of Genius and Taste.

These Principles illustrated by examples, from ancient and modern compositions.

II.

Style.

When Style is in the order of Nature, it is a Language which in words, arrangement, and ornaments is suited to the Subjects of observation and description.

It seems to be the just expression of thought, accompanied with its natural emotion.

Propriety,

Propriety or Beauty of Style, arises, partly from the choice, partly from the arrangement of words.

When the Characters of Style are deduced from examples and authorities alone, they must be arbitrary and uncertain.

This seems to be the great and general defect of works of Criticism.

When the Characters of Style, are deduced from the Subjects described, they are drawn from fixed scientific principles.

1. Characters of the Style which is suited to the Subjects of Natural History, viz.

—of the Kingdoms of Nature.

—of Man.

2. Characters of the Style which

is suited to the different Subjects
of the Sciences and Arts :—

—Mathematical.

—Physical.

—Moral.

3. Characters of the Style which
is suited to the Subjects of Civil
History, in its different Branches ; of—

—Antiquities.

—Annals.

—Biography.

—Regular History.

4. Characters of the Style, which
is suited to the different subjects
of Miscellaneous Composition,
viz ;

—Essays.

—Dialogues.

—Epistles.

5. Characters of the Style which
is

is suited to the different Subjects
of Oratory, viz ;

—Panygerics.

—Judicial Pleadings, either
Civil and Criminal.

—Popular Eloquence.

6. Characters of the Style which
is suited to the different Subjects
of Poetry, viz ;

—Dramatic Poetry.

—The Epic Poem.

—The Lyric Ode.

—Didactic Verse.

S E C T.

S E C T. III.

Uses of Science in the Art of Criticism.

1. The Art, founded on the Science of Criticism, restores the rules for judging in the fine arts, to a reliance on the phaenomena in Nature and in those arts, which address Genius and refine Taste.
2. The Science of Criticism habituates the Mind in the art, to accurate analysis and chaste composition.
3. The Science of Criticism, by uniting observation and Taste, gives

gives to the Philosopher the pleasures of the fine arts, and to the man of Taste the accuracy of Philosophy.

I.

II.

APPLICATION of the First
Principles of Philosophy,
to the Subjects of Science.

INTRODUCTION.

I.

Object, and Progress of this Branch.

The object of applying the First
Principles of Philosophy to the
Subjects of Science, is, to give a
view

view of the proper and useful subjects of inquiry, with the method of obtaining a knowledge of the different departments of Nature.

The arrangements and rules of the ancients, not suited to these ends.

The arrangements were the productions of elegant imagination, not of observation of Nature.

The rules accommodated Nature to Logic and System, not Logic and System to Nature.

The Schools copied the logic and systems, but not the elegant arts and taste of the ancients.

Examples of successful discovery in Mathematics, Natural Philosophy and Natural History, not only pointed out the science of observing Nature, but afforded a
view

view of the subjects, to which that science can be directed.

The explanation of this science was first offered in the writings of Lord Bacon.

The numerous discoveries made since Lord Bacon wrote, furnish examples for attempting the application of it to the various departments of Nature and of Art.

Lord Bacon's philosophy gave the subjects and rules which directed to the great modern discoveries.

The application of the science of observation to the study of Nature, must deduce its subjects and rules, from the spirit of these discoveries.

2.

Arrangement.

1. Philosophical arrangements
of Lord Bacon.

2. Philosophical arrangement
for the study of Nature.

P

CHAP.

C H A P. I.

Philosophy of Lord Bacon.

*Object and Arrangement of Lord
Bacon's Philosophy.*

The general object of Lord Bacon's Philosophy, is to connect the reasoning powers of man, with experiments, for the improvement of Natural Knowledge.

The powers of human reason had long been directed to false subjects of inquiry, and entangled in the subtilities of artificial arguments.

To

To create a just taste for philosophical investigation, required :

1. A display of the true, that they might be distinguished from the false subjects of inquiry.

2. Scientific rules, to direct the human mind, in discovering the laws of Nature.

Lord Bacon's display of the subjects of inquiry, will explain the situation of Philosophy at the revival of learning, and show an ingenious and comprehensive plan for its reformation.

His rules will expose the effects of a false logic on the study of Nature, and shew the method which has produced the great modern discoveries.

This Philosophy is divided into two great branches :

P 2

1. A

1. A *Prospectus* of the subjects of Human Knowledge *.
2. The Art of Induction, or of interpreting Nature †.

S E C T. I.

Prospectus of Human Knowledge.

Lord Bacon's *Prospectus* of Human Knowledge requires the following explanations.

1. An analysis of the theory on which the distribution of its subjects rests.

2. The

* Vid. De dignitate et augmentis Scientiarum.

† Vid. Novum organum Scientiarum.

2. The views which this philosopher gave of these subjects, with the means which he suggested for improving them.

3. A sketch of the degrees in which Inductive Science has corrected, or left defective, these different and varied articles.

Theory.

Man derives his knowledge from the faculties of Memory, Imagination, and Reason:—

—Memory, —History.

—Imagination, —Poetry.

—Reason, —Science.

Prospectus.

History.

Natural.—Civil.

Natural :

- Productions of Nature.
- Peculiarities of Nature.
- Arts, or uses of Nature.

Civil :—

- Ecclesiastical Institutions, &c.
- Literary, or the Progress of Arts and Sciences.
- Civil limited, or the Revolutions of Societies.

Poetry.

- Narrative, or Heroic.
- Dramatic Representations.
- Allegorical Instructions.

Science.

Science.

Sacred Theology.—Philosophy.

Philosophy :

Divine,—Natural,—Human.

Divine :—

—Natural Theology.

Natural :

Speculative, Practical, Mathematical.

Speculative :—

—Physics, or Efficient Causes.

—Metaphysics, or Final Causes.

Practical :—

—Mechanics, or Experiments in the useful Arts, leading to general laws of Nature.

—Chymistry, or Rational Magic.

Mathematics :

176 FIRST PRINCIPLES Part II. 2.

Science continued.

Mathematics :—

—Pure.

—Mixed.

Human :—

Body,—Mind.

Body :—

—Arts of Medicine, &c.

Mind :—

—Logic :—

—Arts of Inquiry.

—Judgement.

—Memory.

—Elocution.

—Ethics :—

—Arts, of cultivating the
Moral Principle.

—of applying it to the
offices of Civil Society.

Analysis

Analysis of the merits and defects of the Theory and *Prospectus*.

M. D'Alembert's imitation of them examined *.

SECT. II.

Art of Induction, or of Interpreting Nature.

The object of the art of Induction is, to direct the human understanding in discerning the Laws of Nature in the various articles of the *Prospectus*.

* Vid. Melanges de Litterature.

178 FIRST PRINCIPLES Part II. 2.

It is divided into the Preparatory and Scientific branches.

The Preparatory branch describes the dispositions required for the study of Nature.

These dispositions refer to the characters of the mind that is fitted to begin the study of Nature, to the characters of the objects, which it is to observe, and of the lessons, which it is to study.

In conformity to these views, the dispositions required for the study of Nature are divided into two articles, given in the form of rules.

1. Rules for rendering the Mind
a *tabula rasa*, on which the
hand of Nature is to write by
observation and experiments :
and

and for expelling the *prejudices*, which have retarded the progress of the useful Sciences and Arts.

Prejudices——

—common to the species.

—peculiar to every individual.

—from verbal distinctions.

—from the authority of systems of Philosophy.

2. Rules for distinguishing the systems of the Sophist, Empiric, Dogmatist, &c. which are the false objects and methods of Philosophy, from the subjects that admit of observation and experiment, which are the true objects and method of Philosophy,

The

The Scientific branch offers rules for making real discoveries in Nature, and for applying them to the business of life.

1. Rules for forming the History of Nature, by the application of the Senses simply, or assisted by such Arts as will fully discriminate Phenomena, and exhibit the arrangements of Nature.

2. Rules to assist the memory in arranging Phenomena into Tables, where the Interpreter is to reduce Laws of Nature to Practical Arts, and rise from Practical Arts to Laws of Nature, by a general Induction.

3. Rules

3. Rules for reconciling theory and practice, by forming axioms from experiments, and new experiments from axioms, by the aid of Reasoning.

The merits of the art of Induction must be estimated, by the state of Philosophy when it was invented.

At this period, there was no example of a Science so fully explained, as to shew the lines of Analysis, when it forms the history of Nature, that must precede Induction.

There were also few, if any examples of Sciences, in which the method of discovering, or Induction, could be read in actual discoveries.

Q These

These observations will be justified by a sketch of the effects of this art.

S E C T. III.

Effects of the Art of Induction.

The effects of this new method of interpreting Nature appear in particular discoveries, and in the public Taste for the Sciences and Arts.

The effects in particular discoveries stated in the progress of——

—Mathematics.

—Natural Philosophy.

—Natural History

The

The Sciences to which it has not been applied remain subjected to Hypothesis and System.

This appears in the present state of——

—Physiology.

—Pneumatology.

—Logic.

—Ethics.

The effects on public Taste appear in the imitations of Lord Bacon's plan of establishing a society, for the improvement of Natural Knowledge*.

His New Atlantis seems to be the model on which the Societies and Academies of Europe have been formed.

Though this new Philosophy has been successfully applied, as the

Q 2 means

* See New Atlantis.

184 FIRST PRINCIPLES Part II. 2.

means of making discoveries in particular Sciences and Arts, it has not been formed into an elementary Science, for promoting the study of Nature.

CHAP.

CHAP. II.

Philosophical Arrangement for the
study of Nature.

Theory.

The progress of the Mind in the acquisition of knowledge, affords the following Theory, for the study of Nature.

When we observe phaenomena, and collect facts, we form a History of Nature.

When we discover the nature and relations of phaenomena and of facts, we acquire a Science.

Q 3

When

When we apply the result of Science, as rules of conduct, we practise Arts.

History, Sciences, and Arts, appear to be a distribution of Nature, arising equally from the character of the subjects, and of our faculties, in acquiring a knowledge of them.

The application of the First Principles of Philosophy to form a History of Nature, is the Philosophy of that History.

The application of the First Principles of Philosophy to ascertain the Laws and the Theories, which obtain in each branch of the History of Nature, is the Philosophy of the Sciences.

The application of the First Principles of Philosophy to trace
the

the manner, in which the Laws of the Sciences explain and improve the Arts, for the business or pleasures of life, is the Philosophy of the Arts.

S E C T. I.

Philosophy of the History of Nature.

The Philosophy of the History of Nature consists, in an application of the principles which discriminate its great departments and render each of them the subject of a science.

This Philosophy will require,

1. An obvious description of the
phaenomena

phaenomena and facts in each branch of Nature.

2. A sketch of the progress of improvement in that branch.

3. An application of Philosophical principles, viz. —

—Analysis, to discover the qualities of phaenomena.

—Arrangement, to distinguish the class, or department in Nature.

—Evidence, to ascertain the accuracy of the analysis and arrangement, which render each branch of the History of Nature, the foundation of one, or more Sciences.

The

The principal subjects in the History of Nature, to which this Philosophy is to be applied, will appear in the following Table.

The Principles of Arrangement are marked at each subject of History; the corresponding Sciences will occur in the Table of the Sciences.

History of Nature.

1. Intelligent Beings.
2. Material Phaenomena.

1. Intelligent Beings :

Deity, — Man.

Deity : —

—Existence.

—Government.

Man : —

—His Natural History : —

—Body,

History of Nature continued.

- Body, arranged by—
 - Structure.
 - Growth and Decay.
 - Tendencies.
- Mind, arranged by—
 - Faculties.
 - Progress and Decline.
 - Tendencies.
- Civil History :—
 - Governments, by—
 - Their Liberty.
 - Civil Laws, by—
 - Their Justice.
 - Public Oeconomy, by
 - Its Utility.
- Literary History :—
 - Arts, } :—by
 - Sciences, }
 - Their

History of Nature continued.

- Their Nature,
 - Chronology.
- Ecclesiastical History:—
 - Natural Religion, by—
 - Its Morality.
 - Positive Institutions, by—
 - Their Morality.
 - Chronology.

2. Material Phaenomena.

Particular :

- Animals, arranged by—
 - Structures.
 - Propagation and Nutrition.
 - Tendencies.
- Vegetables, by—
 - Structure.
 - Propagation and Nutrition.
 - Uses

History of Nature continued.

—Uses and Effects.

—Fossiles, by—

—External Appearances.

—Intrinsic Qualities,

—Uses and Effects.

General :—

—The Earth,

—The System of Nature,

} by—

—The general qualities of Matter, Gravity, &c.—

—The relatives degrees of Extension and Motion.

S E C T.

SECT. II.

Philosophy of the Sciences.

The Sciences arise from the History of Nature.

The Sciences extend and explain the History of Nature.

The Philosophy of the Sciences consists, in an application of the principles, which discover the laws of Nature in each department.

This Philosophy requires,

1. An obvious description of the connection subsisting betwixt the History of Phaenomena, and the Sciences, which evolve the laws of Nature.

R

2. A

2. A sketch of the succession of Hypotheses, offered to explain the Sciences.
3. An application of Philosophical principles, viz.——
 —Induction, to discover the laws of Nature.
 —Theory, to shew the manner in which the laws of the Sciences become doctrines, that are the foundations of the Arts.

The principal Sciences, and their connection with the History of Nature, will appear in the following Table.

Sciences.

1. Intelligent Beings.
2. Material Phaenomena.

1. In-

Sciences continued.

I. Intelligent Beings.

Deity :—

—Ontology.

—Natural Theology.

Man :—

—Body :—

—Simple Anatomy.

—Physiology.

—Mind :—

—General Logic :—

—Pneumatology.

—Analysis and Induction.

—Metaphysic.

—Pure Mathematics.

—General Ethics :—

—Morals,

—Jurisprudence, } :—

—Politics,

—Casuistry of each
branch of General
Ethics.

Sciences continued.

2. Material Phaenomena.

Particular Physics :—

- | | | |
|---------------------------|---|----|
| —Animals, — | } | :— |
| —Comparative
Anatomy ; | | |
| —Vegetables, — | | |
| —Botany ; | | |
| —Fossiles, — | | |
| —Mineralogy ; | | |
| —Physiology. | | |
| —Chymistry. | | |

—Mixed Mathematics :—

- | | | |
|----------------------|---|----|
| —Mechanics, | } | :— |
| —Hydrostatics, | | |
| —Pneumatics, | | |
| —Optics, | | |
| —Physical Astronomy. | | |

S E C T.

S E C T. III.

Philosophy of the Arts.

In the Sciences, Man is the interpreter of Nature.

In the Arts, he makes use of the laws of the Sciences, as instruments for the attainment of his ends.

The objects of the Arts suggest a division of them.

The object of the Fine Arts is Pleasure.

The object of the Liberal Arts is Knowledge.

The object of the Mechanical Arts is Utility.

In the Fine and Liberal Arts

the Philosopher is directed by Principles.

In the Mechanical, the Artisan implicitly follows rules in the practice, and in the subdivisions of Labour.

The application of the laws of the Sciences to explain and improve the Arts, constitutes the Philosophy of the Arts.

This Philosophy requires,

1. An obvious description of the subjects of the Arts.
2. An analysis of the relation subsisting betwixt the particular Arts and the Sciences which explain and improve them.

The principal Arts, and their reliance on their corresponding Sciences, will be explained by the following Table.

Arts.

Arts.

Fine :—

—Science of Criticism, explaining the Principles of the Arts of *—

—Music.

—Poetry.

—Sculpture and Painting.

—Architecture.

Liberal :—

—Science of General Logic explaining the Principles of the Arts of :

—Analysis,

—Reasoning,

&c.

—Science of General Ethics, explaining the Principles of the Arts ;

—of

* See the preceding Branch of this Part.

Arts continued.

- of Legislation.
- of Political Oeconomy.
- of good conduct in life.

Particular Physics.

Sciences of—

—Anatomy,

—Botany,

—Mineralogy,

—Chymistry,

—Arts of—

—Surgery,

—Pharmacy,

—Medicine,

&c.

—Arts of—

—Gardening,

—Agriculture,

&c.

Arts

Arts continued.

Mixed Mathematics.

Sciences of—

—Mechanics,

—Hydrostatics,

—Pneumatics,

—Optics,

—Arts—

} : —

—of Architecture:—

—Civil,

—Military,

—Naval,

&c.

—of the Optician,

—of the Perspective Painter,

—of the Geographer,

&c.

Arts

Arts continued.

Mechanical.

The Arts, from Particular Physics, and Mixed Mathematics, are subdivided for the purposes of labour.

The subdivisions of the Mechanical Arts are numerous, in proportion to the improvements of the Sciences, and the refinements of Civil Society *.

* See History of Philosophy.

III.

APPLICATION of the First Principles of Philosophy to the Subjects of History.

INTRODUCTION.

I.

Subjects of History.

History records the events and discoveries which have characterized mankind in different ages.

Civil History records the progress of Nations :

The History of Philosophy, the Progress of Discovery.

The

The Principal subjects of Civil History are Religion and Government.

The principal subjects of the History of Philosophy are the Arts and Sciences.

The subjects of Civil History form a necessary introduction to the History of Philosophy, because they explain the causes which produce or retard discoveries.

The subjects of the History of Philosophy take a different order, from the order of the same subjects in Nature.

The order of Nature is from the History of Phaenomena, to Science, and to Art.

The order of the History of Philosophy is from rude Arts, to Sciences, and to the History of Nature.

The

The application of the First Principles of Philosophy to these subjects, should describe the degrees of the observation of Nature, which have prevailed at different periods.

2.

Chronology of History.

The Chronology of Civil History is the arrangement of events, affecting nations, according to the periods, in which they actually happened.

The Chronology of Philosophy is the arrangement of the Arts and Sciences, according to the aeras, when they assumed new forms.

3.

Arrangement of the History of Philosophy.

1. Philosophy and Letters previous to the rise of the Grecian Free States.

2. Philosophy and Letters from the rise of the Grecian Free States, to the fall of the Roman Republic.

3. Philosophy and Letters from the fall of the Roman Republic, to the revival of Learning in Europe.

4. Philosophy and Letters from the revival of Learning, to the present times.

5. Re-

5. Reciprocal influence of Philosophy and Civilization in their progress and decline.

S 2

CHAP.

C H A P. I.

History of Philosophy and Letters
previous to the rise of the Gre-
cian Free States.

The articles of Civil History, and
of Philosophy, in this period, form
but one mixed subject.

We may conjecture respecting
the state of both, by explaining the
articles in the following Table.

1. Religion.

1. Religion.

Theism,—opinions respecting one Deity.

Polytheism,—opinions respecting a multiplicity of Deities.

Mythology,—fables of Priests, wrapt up in mystery and magic.

2. Government.

Political Laws:—

—Limited chiefships, or the Government of Families in the Savage State.

—Extensive chiefships,—or the Government of Tribes in the Barbarous State.

S 3 —Monarchy,

210 FIRST PRINCIPLES Part II. 3.

History, &c. continued.

—Monarchy,—mixed, and arising from usurpations and conquests,—First Eastern.

—Theocracy—Jewish.

—Republics undefined,—Greek.

Civil Laws :

—Usages, or Law of Opinion.

—Traditional and Written precepts, considered as Municipal Laws.

—Leagues, arising from national vicinity, and considered as the Law of Nations.

History, &c. continued.

3. Arts and Sciences.

Fine Arts :—

—Poetry and Music, making
but one Art.

—Eastern.

—Greek.

—Lyric.

—Elegiac.

—Didactic.

—Epic.

Useful and Mechanical Arts re-
fining, but without Science.

Sciences, and Liberal Arts :—

—Cosmogony,—fabulous opi-
nions respecting the origin
of the World.

—Conjectural Astronomy,—ob-
servation of the appearances
and periods of the Stars,
blended

History, &c. continued.

blended with hypotheses respecting the System of Nature.

—Astrology,—opinions concerning the influence of the Stars over the Destinies of Mankind.

—Geometry,—limited.

—Legislation in Greece, producing a species of Ethics.

--Rhapsody,—the rehearsal of the favourite Greek poems, for the Education of Youth.

—Sophistry—artificial rules for conducting public disputes.

—Hieroglyphics,—pictures of objects.

—Alphabetical characters.

C H A P. II.

Philosophy and Letters from the
rise of the Grecian Free States, to
the fall of the Roman Republic.

The Elegant Arts and Philosophy of the Greeks appear in this period.

A false Logic, and their political situation, prevented important discoveries in the useful Sciences.

The spirit of their religion and governments was blended with their prevailing hypotheses respecting Nature.

These

214 FIRST PRINCIPLES Part II. 3.

These observations will be explained, by the articles in the following Table.

1. Religion.

Oracles and Divination.

Polytheism of the Vulgar.

Mythology of the Priests.

Superstitious Theism of the Philosophers.

2. Governments.

Political Laws :—

—Monarchies, ——— sometimes hereditary, sometimes usurped, frequently from conquest; — Assyria, Egypt, Persia, Macedon.

—Republics mixed, — Greece, Carthage, Rome.

Civil

History continued.

Civil Laws :—

—Municipal Institutions,—
chiefly of free States.

—National Usages and
Leagues, considered as
the Law of Nations, but
without reference to any
general, or refined Moral
Principles.

3. Arts and Sciences.

Fine Arts :—

—Music :

—Eastern.

—Greek.

—Poetry :

—Lyric,

—Epic,

—Dramatic,

&c.

—Sculpture

History continued.

—Sculpture and Painting :—

—Greek.

Architecture :—

—Eastern.

—Greek.

Useful or Mechanical Arts ;—improved by considerable degrees of Science.

Liberal Arts :—

—Rhetoric,—lessons for the improvement of Oratory and Composition.

—Artificial Logic,—the Categories, and Syllogistic Art.

—Metaphysics,—Abstract Subtilties.

—Geometry,—a Science.

—Arithmetic limited, from the

History continued.

the use of Letters for Units.

—Medicine, with Systems of Empirics and Dogmatists.

Sciences :—

—Natural History limited, but without systems.

—Physics and Astronomy with systems.

—Ethics with systems.

4. Sects.

Italic school, and school of Pythagoras :—

—Eleatics,—Zeno the Eleatic.

—Sceptics,—Pyrrho.

—Epicureans,—Epicurus, &c.

T

Ionic

History continued.

Ionic school of Thales, afterwards
the school of Socrates:—

—Academics,—Plato,

—Peripatetics—Aristotle,

—Stoics,—Zeno of Citium,

&c.

C H A P.

C H A P. III.

Philosophy and Letters from the fall of the Roman Republic to the revival of Learning in Europe.

In this period, the prevailing sects mingled their hypotheses with the doctrines of Religion, and made a superstitious Theology, the principal end and object of their Philosophy.

The spirit of the governments explains the causes which contributed to the fall of Ancient Arts and Wisdom.

The following Table will afford
Titles for explaining these sub-
jects.

1. Governments.

Political Laws :—

—Roman Despotism,—abso-
lute and extensive.

—Barbarian Establishments,
—from conquests.

—Feudal System,—monar-
chies, military, and li-
mited by subordinate or-
ders.

—Ecclesiastical Hierarchy,—
spiritual and temporal u-
surpations of the Church.

—Commercial Governments,
—from the emancipa-
tion of the people, by the
introduction of arts and
of trade.

Civil

History continued.

Civil Laws :—

—Roman Jurisprudence,—

compiled by the order of the Emperor Justinian, from the Institutions of Greece and Rome, from the Doctrines of Philosophers, and the Opinions of Lawyers.

—Feudal Laws,—the regulations for the administration of Justice in the courts of the Feodal Monarchs, and of their Barons.

—Canon Laws,—a compilation of Church Institutions, in imitation of the Roman Jurisprudence.

T 3

—Municipal

History continued.

—Municipal Institutions,—

the Common Laws of the settled European States, assuming different Characters from the absolute and free spirit of the different Governments.

2. Arts and Sciences.

Fine Arts :—

—Poetry :—

—Last Greek.

—Last Roman.

—First Italian.

—Music :—

—National.

—Artificial, or Italian.

—Sculpture and Painting :—

—Italian.

—Flemish.

—Archi-

History continued.

—Architecture :—

—Gothic.

—Greek.

Useful or Mechanical Arts with
inferior degrees of Science.

Liberal Arts :—

—School Logic,—Ancient
Greek Logic, debased and
corrupted by the intro-
duction of Monkish jar-
gon.

—Metaphysic,—the abstract
subtlties of the Greeks,
blended with the my-
stical disputes of the
Priests.

—Casuistry,—cases of me-
rit and demerit, argu-
ed and adopted by the
Priests and Lawyers.

—Arabian

History continued.

—Arabian Arithmetic, —simple, from the invention of cyphers, as signs for units.

—Greek Geometry, — not from the original, but from the Arabian translations.

—Art of Medicine, with the systems of Galenists and Chymists.

—Arts of——

—Engraving.

—Printing.

Sciences :——

—Natural History :——

—Arabian, partly original, chiefly copied from the Greeks.

—Revived!

History continued.

—Revived Greek.

—Physics and Astronomy,—

—Revived Eastern and
Greek.

—First Modern Discoveries.

—Ethics of the Sects.

3. Sects.

Druids, or Celtic Priests and
Bards.

Sects of the Jews, formed from
an intermixture of Jewish ten-
nets, with the doctrines of the
Greek sects.

Syncretists, Platonics, and An-
cient Eclectics, who selected
from every system, and pro-
posed to institute one perfect
and universal Philosophy.

First

History continued.

First Schools, or Monastics in Cathedrals, instituted for the education of churchmen,—taught the School philosophy,—gave rise to the sects of Nominalists and Realists.

Arabian Philosophers, who both copied from the Greeks, and were distinguished by their own discoveries.

Revived Greek sects in Italy.

Second Schools, or Universities, where the doctrines of the distinguished Greek sects were taught.

Second, or Modern Eclectics, who were to select from no system, but to observe Nature.

C H A P.

C H A P. IV.

Philosophy and Letters from the revival of Learning to the present Times.

In this period the proper subjects of Taste and Philosophy were perceived, and separated from those of Civil History.

The spirit, however, of the governments of the present European States, with the numerous objects which they offer to invention and industry, have operated in different degrees, as causes of the present public Taste for the Arts and Sciences.

These

These observations will be illustrated by explaining the following Table.

I. Governments.

Political Laws :—

—Monarchies :—

—Absolute and hereditary,—France, Spain, &c.

—Mixed, by the division of the Sovereignty betwixt the Monarch and the other orders of the State,—Germany—Britain.

—Republics :—

—Mixed, from the hereditary ranks of Chief Magistrates and Nobility,

History continued.

bility,—Swiss Can-
tons, Holland, &c.

Civil Laws :—

—Municipal Institutions,—
perfect or defective, in
proportion to the liber-
ties and resources of a
people.

—Law of Nations,—appeal-
ing to the refined Moral
Principle of National cha-
racter.

2. Arts and Sciences.

Fine Arts :—

—Poetry :—

—Italian.

—French.

—British.

U

—Music:

History continued.

—Music :—

—National.

—Artificial, or Italian.

Sculpture and Painting :—

—Italian.

—Flemish.

—French.

—British.

—Architecture :

—Gothic.

—Modern, or Revived
Greek.

Mechanical and Liberal Arts,—
reducing to a dependence on
the Sciences which create and
improve them.

Sciences :—

—Logic :—

—Analysis and Induction.

—Pure Mathematics :—

—Geometry.

History continued.

- Geometry.
- Arithmetic.
- Algebra, or contracted
Cyphers, invented by
the Arabs, and applied
to facilitate Geometri-
cal Demonstrations.

Natural History :—

- Anatomy,
 - Botany,
 - Mineralogy,
 - Chymistry,
- } :—
- Practice and Theory
of Medicine.

Phyics :—

- Mechanics,
 - Hydrostatics,
 - Pneumatics,
 - Optics,
- } :—
- U 2 —Astronomy.

History continued.

- Astronomy.
- Geography.
- Newtonian System of
Universal Gravitation.

Ethics :—

- Moral Philosophy,—refining by Hypotheses and elegant Speculations, rather than by Science.
- Jurisprudence,—refining by Hypotheses and Systems.
- Politics,—subjected to Hypotheses and Systems.

3. Sects.

Scholastics,—Disciples of the revived Greek sects.

Cartesians,

History continued.

Cartesians, or subverters of the Scholastic doctrines, and inventors of new Hypotheses respecting the Human Mind.

Metaphysicians,——Who have offered a succession of Speculative and Abstract Hypotheses, to explain the Characters of the Human Mind.

Moralists, who have offered Hypotheses, to explain the Principles of Human Action.

CHAP.

C H A P. V.

Reciprocal influence of Philosophy
and Civilization in their pro-
gress and decline.

Nations have a progress, from
rude institutions, to the govern-
ment of laws, and the refinement
of manners.

Philosophy furnishes the corre-
sponding articles of rude arts, spe-
culations, useful discoveries, and
a public Taste for the Arts and
Sciences.

1. What

1. What have been the effects of the different kinds of Philosophy on the Human Mind ?

2. What have been the effects of Civil Institutions on Philosophy, and of Philosophy on Civil Institutions ?

3. What have been the reciprocal effects of both on the manners of mankind ?

THE END.

Ch. 7. of Digest.

1. What have been the effects of the different kinds of property on the human mind?

2. What have been the effects of Civil Institutions on the human mind?

3. What have been the effects of Civil Institutions on the human mind?

66 W 02

4. What have been the effects of Civil Institutions on the human mind?

THE END